



A Europeanist's Perspective

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Manuscript for

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A Europeanist's perspective

The term "encyclopedia"

"Encyclopedia" is a term coined in Latin and shortly thereafter in various European vernaculars by humanist writers ca. 1470-1530, on the model of what they thought was a Greek term, **Enkuklopaideia**, for "circle of learning."ⁱ The term and its supposed etymology have been rich in history, inspiring authors over many centuries to expatiate on the metaphor of the "circle of learning" in any number of organizational schemes.ⁱⁱ Even as recently as its latest print edition (the 15th), the Encyclopaedia Britannica for example described its purview as the circle of learning, which was presented in the Propaedia in a circular table with 10 subdivisions.ⁱⁱⁱ Philological work of the last half century has established, however, that the etymology from **enkuklopaideia** is false, based on a corruption of the Greek expression **enkuklios paideia**, which designated common education or general culture.^{iv} My point is not to invalidate analyses of the metaphors based on the "circle of learning" which are clearly of great historical significance, but to remind us that even in the European context the term "encyclopedia" is a relatively recent linguistic construct.^v

Even once the term was coined, "encyclopedia" occurred only rarely in book titles before the 18th century.^{vi} Johann Heinrich Alsted's Encyclopaedia of 1630 is one of the first to associate

the title with a work which we would consider encyclopedic: a four-volume folio work which offers pedagogical presentations (akin to a textbook) of all the traditional disciplines as well as a long list of new disciplines which Alsted often coins for the first time in an attempt to cover exhaustively all areas of human endeavor. His encyclopedia combines in this way a focus on essential and ordered knowledge with completeness in scope. Though it was reprinted once in 1649, Alsted's Encyclopaedia did not generate any imitators. The fad for works entitled encyclopedia takes off in the 18th century, with Ephraim Chambers' Cyclopaedia and the work that Diderot first began as a translation of Chambers into French, but which grew into the 17-volume Encyclopédie (1751-65).^{vii} Although the Encyclopédie did not have the afterlife of the Encyclopaedia Britannica (1768-71), the latter started as a much more modest three-volume work compiled by one man, William Smellie, who "used to say jocularly, that he had made a Dictionary of Arts and Sciences with a pair of scissors, clipping out from various book a quantum sufficit of matter for the printer."^{viii} Instead, the Encyclopédie established the format for the modern encyclopedia which is still current today, as a multi-author, multi-volume, illustrated and alphabetized reference work.

There was no genre of the "encyclopedia" before the 18th century, but historians have long since used this category to describe works with neither the title nor the form of the modern encyclopedia, but which presented encyclopedic features--typically a classification of knowledge and a synthesis of an ambitious or exhaustive scope of knowledge. Since the beginning of the 19th century in particular historians have described as "encyclopedias" a series of medieval works from Isidore of Seville to Thomas of Cantimpré, including Vincent of Beauvais' Speculum maius.^{ix} The designation, though anachronistic, has proved effective because it has been consistently applied to a canon of works that strove to synthesize and summarize much

knowledge, despite differences in purpose and context.^x

For Cassiodorus (ca. 490-585) and Isidore of Seville (ca. 600-636), principal authors in the first wave of "medieval encyclopedias," the point was to preserve what was useful from ancient learning for the training of monks and preachers respectively and to bring together and transmit an essential core of knowledge. These authors self-consciously spared the basics of ancient learning, from arithmetic to the meanings of terms through their etymology, from the destruction and loss of access that was befalling the more complex and voluminous ancient originals. The second wave of medieval encyclopedias, in the 13th to 15th centuries, was a response to a different set of circumstances. These authors were inspired not by the fear of loss, but by the awareness of an overabundant accumulation of knowledge. Historians can attribute this overload to a few different factors, including the sudden influx of Aristotelian and other texts transmitted from the Islamic world, the increasing bulk of materials generated by university teaching, and the growth of historical writing, among other genres cultivated outside the universities. Thus Vincent of Beauvais articulated his motivations elegantly in the preface to his four-volume Speculum maius (1255):

Since the multitude of books, the shortness of time and the slipperiness of memory do not allow all things which are written to be equally retained in the mind, I decided to reduce in one volume in a compendium and in summary order some flowers selected according to my talents from all the authors I was able to read.^{xi}

His four-volume encyclopedia offered short chapters on a myriad topics, gathered from Vincent's wide reading.^{xii} His purpose is to paraphrase and abridge, to bring together in one place and in orderly fashion material which would otherwise be difficult of access because too abundant, dispersed and time-consuming to master.

The term "encyclopedia" has proved a useful category to European medievalists because there has been an impressive consensus around a canon of "medieval encyclopedias" since that expression was first coined. The period for which the use of the term has proved more problematic is the early modern period, ca. 1450-1700, because there has been no functional agreement among early modernists on a canon of encyclopedias before the Encyclopédie. The problem lies partly in the great number and diversity of works that could be considered encyclopedic, both increased by the impact of printing. In addition, the enthusiasm of early modern authors for the term and ideal of the "encyclopedia" further complicates its use by historians--the term is not just a historical category, but also an actors' category or rather the category of many actors who emphasize different aspects of its multivalence.

The lack of generic markers for the encyclopedia in early modern Europe is not only a function of historians' imprecision; it is rooted in the multiple conceptions of the encyclopedia that one finds among the early modern authors themselves. For example, an undisputedly central figure in any study of early modern encyclopedism, Johann Heinrich Alsted devotes a long section of the preface to his Encyclopedia of 1630 to the works that he considers to have preceded him in his task. Alsted lists some 15 works, dating mostly from the preceding half-century, whose "heroic labor" in "presenting all of philosophy in one syntagma" inspired him, he explains. These works range from 150-page octavo volumes to thousand-page folios, from purely diagrammatic systems of knowledge (such as Freigius' Ramist tables) to texts which offer only a table of contents to guide the reader through their continuous prose, from lullist and cabbalistic schemes of knowledge (like Cornelius Gemma's Cyclognomic art) to compilations of famous quotations on all possible topics (like Theodor Zwinger's Theatrum vitae humanae).^{xiii} So Alsted himself traces his encyclopedia to a dual inspiration, from systematic but skeletal presentations

of knowledge on the one hand and bulky but jumbled compilations of actual material on the other.

Similarly, historians have studied as "encyclopedias" elaborate classifications of knowledge sometimes without even any content as well as large informative books arranged arbitrarily according to the alphabet or even miscellaneously.^{xiv} Among the many interpretations of the term between these two poles, none seems to me particularly more legitimate than another. But the European case suggests that it is helpful to understand how these categories were formed and first applied to works in pre-modern Islam. When and by whom was the term "encyclopedia" first applied to the Islamic context?^{xv} Is there, as for the Latin Middle Ages, a "canon" of works which specialists have long agreed to call "encyclopedias"? If not, then attempting to create a hard-and-fast definition will no doubt prove difficult. But to proceed at first with a broad interpretation of "encyclopedia" might be the best tactic, pending a consensus on how to settle on a narrower definition.

Reference works in early modern Europe

In pursuing my own research in early modern "encyclopedias" I have decided to avoid the term and the definitional difficulties it poses and to focus instead on a genre defined by its intended use. Of the different kinds of "encyclopedias" the elegant classifications of knowledge have received comparatively more study than the unwieldy tomes so often based on compilation.^{xvi} I am at work on a typology of the latter genres, which I call "reference books." That term is equally anachronistic (first used in the early 19th century) and not even canonical, but I would argue that it does correspond to a contemporary conception and practice of reading, based on consultation rather than continuous reading. Of course actual use need not correspond

to intended use: it is possible to read the dictionary straight through and to consult even a short work on just a particular point. Nonetheless one can identify the intended use of a work from its presentation and finding devices, and at times from authorial statements. Thus the Swiss naturalist and bibliographer Conrad Gesner explained in justifying the alphabetical arrangement of his four-folio-volume Historia animalium (1551) that the "utility of lexica" like his

comes not from reading it from beginning to end, which would be more tedious than useful, but from consulting it from time to time (ut consulat ea per intervalla).^{xvii}

Although there is no widespread term to designate these kinds of books nor a special place for them in libraries in the early modern period, contemporaries nonetheless were well aware of the increased availability and use of such works, for better and for worse.

From the "better" perspective, Gabriel Naudé, in his Advice for erecting a library (1627; here translated into English in 1661 by John Evelyn) called for the purchase of such works as necessary in any good library:

Neither must you forget all sorts of commonplaces, dictionaries, mixtures, several lections, collections of sentences and other like repertories. In earnest, for my part, I esteem these collections extreamly profitable and necessary, considering [that] the brevity of our life and the multitude of things which we are now obliged to know, e're one can be reckoned amongst the number of learned men, do not permit us to do all of ourselves.^{xviii}

But others saw in these aids to learning the very cause of the imminent decline of civilization.

Thus Meric Casaubon, writing in 1668, traced a steady decline in learning since its highpoint ca. 1600 and blamed it on the time wasted on "methods" that promised "a shorter way."^{xix} The French philologist Pierre-Daniel Huet (1630-1721), as reported in the posthumous Huetiana

(1722), elaborated on this tragic story of unintended consequences:

One cannot praise too much those who wanted to impart to their contemporaries and descendants the good things which had cost them so many sleepless nights and who sought to abbreviate and smooth the path of learning. But their success was too great and a good cause has produced a very bad result--we are satisfied with the false erudition which is at the foot of the mountain and spare ourselves the effort of climbing to the top where true erudition is. So many summaries, so many new methods, so many indexes, so many dictionaries have slowed the live ardor which made men learned.... All the sciences today are reduced to dictionaries and no one seeks other keys to enter them.^{xx}

Whether they were perceived as useful aids or as the agents of the decline of civilization, the genres that I propose to call reference books were clearly a noticeable presence in early modern intellectual culture.

These assessments, both friendly and hostile, provide good specifics on the kinds of works in use as reference books ca. 1500-1700. Early modern dictionaries, like Calepino's Dictionarium that went through 150 editions in the 200 years after its publication in 1502, typically contained many encyclopedic elements in addition to linguistic definitions and increasingly polyglot translations.^{xxi} They followed medieval antecedents (such as Giovanni Balbi's Catholicon, composed ca. 1286) in including such information as the gestation period of an elephant or the curative virtues of cabbage under these respective terms. This encyclopedic content is also remarkably impervious to change: the entry in the Calepino for "terra," for example, explains that the earth is the heaviest element, stationary in the middle of the world, even as late as 1746, after the international acceptance of Newton's Principia (first published in 1687). At first I attributed the long persistence of this position to the notoriously conservative

nature of the dictionary genre, which always starts by recycling the contents of earlier editions. But I now see it also as inherent in the purpose of the *Calepino*, which was designed, as one preface explains, as an aid to reading the classical canon; since the classical texts all assumed that the earth was the heaviest element and stationary, this was the relevant information to include in this particular dictionary, rather than the latest scientific consensus.^{xxii}

Dictionaries of proper names, which experienced such a rich fortuna in the Islamic world, first appeared relatively later than other reference genres in the Latin West, despite ancient models such as *Diogenes Laertius*.^{xxiii} The genre developed only slowly in the sixteenth century, both in the form of the biographical dictionary focused on the great figures of a nation or a profession, and, to accompany the dictionary of common names, as an aid in reading classical texts by explaining the names of places, persons and gods encountered there.^{xxiv}

A category of reference work that bulks particularly large from the 13th century on consists, in Naudé's words, of "commonplaces and collections of sentences and other like repertories." The florilegium collected the "flowers" or best quotations from important authorities sorted under topical headings (typically the vices and virtues and various religious topics). First developed as an aid to preachers who needed quotations to flesh out their sermons, the florilegium initially focused on the Bible and Church fathers; from the Renaissance on the genre was adapted to serve the needs of schoolboys and included a range of classical authors as models of classical Latinity as well as moral probity.^{xxv} Other collections of material sorted under headings offered edifying anecdotes and exempla from natural and human history, which could serve not only moral instruction but especially the rhetorical needs of those writing letters, orations and treatises. Works in this genre typically used alphabetical order, either as an organizing principle or as a finding device in one or more indexes. Systematic alphabetizing and

indexing also began in earnest in the 13th century, notably with the concordance to the Bible completed by the Dominicans at St Jacques by 1239. By the 14th and 15 centuries a number of large utilitarian works included indexes, including for example the Speculum historiale of Vincent of Beauvais.^{xxvi}

Naudé mentions a third general category, which is less well known: his "mixtures or several lections" refers to a genre of work often entitled variae or antiquae lectiones (various or ancient readings), which typically presented themselves as imitations of Aulus Gellius' Noctes atticae and offered a miscellaneously arranged set of commentaries on the languages, literature and culture of classical antiquity. These works originated with the humanist project of looking back to classical antiquity for models of texts to imitate and study, and in practical terms, were often generated from the notes of teachers of the humanities. Usually massive in size, these works served as storehouses of rhetorical and cultural information made accessible by alphabetical indexing.^{xxvii}

A final reference genre, much used by those who built up library collections for themselves or others, is the bibliography. From a few medieval antecedents, the genre developed especially after printing.^{xxviii} Gesner's Bibliotheca universalis (1545) listed alphabetically by author some 10 000 works, extant and lost, in Latin, Greek and Hebrew; in the accompanying Pandectae (1548) Gesner attempted to provide a universal topical index to the contents of all these books. He describes his own methods of working, which included cutting and pasting from printed works (where possible, he specifies) and arranging and rearranging notes on slips of paper held on sheets with temporary glue before pasting them in a permanent order for publication. Gesner's bibliographical works were each only printed once but elicited much praise, along with abridgments and imitations in the vernaculars as well as specialized

subjects.^{xxix}

In Western Europe the 13th century was a period of renewed development of consultation reading after the decline of classical culture. Many of the reference genres dominant in the early modern period originated then; their legacy can still be identified today, from the dictionary to the dictionary of quotations and the alphabetical index. The precise methods of citation and the elaborate manuscript ordinatio characteristic of many scholastic manuscripts further contributed to the ease of retrieval of specific passages in a large volume: running heads, and divisions of the text into books, chapters, quaestiones and distinctiones were generally highlighted by rubrication, numbering, changes in script or marginal signals.^{xxx} It would be fruitful to compare the techniques of text management, from ordinatio to finding devices, in the manuscript cultures of the Latin Middle Ages and pre-modern Islam. The work that has been done so far on techniques of scholarship and note-taking indicates many similarities in the ways of working, including the high esteem in which memorization was held, combined with the constant reliance on the written word, from notes taken on slips of paper during oral performances to excerpts copied out while reading.^{xxxi} At the same time the much longer continuities in the reception of pre-modern Islamic encyclopedias (which in some cases are still in print and use today) and the long survival of a "pure" manuscript culture in Islam offer rich areas for examining the divergence between these two cultures. Whereas Islamic culture seems to have continued on a steady course, Western Europe experienced printing (mid-15th century) and a "quarrel of the ancients and the moderns" which was resolved in favor of the latter (late 17th century).

The invention and rapid spread of printing in the mid-15th century introduced new problems and possibilities. Considerable historiographical controversy has been generated by attempts to assess the impact of printing (on Protestantism, scientific revolution, a public

political sphere etc).^{xxxii} One consequence of printing, however, seems undeniable: printing generated a large and cumulative increase in the availability of books. Personal and institutional libraries grew much faster than ever before. By the mid-16th century and in ever louder tones thereafter Europeans were complaining about the abundance of books, which seemed a deleterious overabundance, including (as noted above) an overabundance of those books which were designed to offer shortcuts to the ever-increasing mass of reading material. In addition to reference books, which were printed and reprinted at remarkable rates despite their expense to the buyer, new kinds of advice books were also designed to help, from Naudé's manual on how to select books for one's library to advice on how to read books or take notes most efficiently.^{xxxiii}

The cheapening of books also made possible some new methods of work, including, to spare the labor of copying, cutting out passages from printed books, for inclusion in personal notebooks as well as in the composition of new works. But such destructive methods of working no doubt remained the exception, though one article in the Encyclopédie portrays the ideal reader as pruning his books down to those few pages that were genuinely useful, consigning the rest of the book to the flames.^{xxxiv} A more widespread method for coping with overload was to delegate and share the tasks of reading, note-taking and writing. Recent work has shed light on the collaborative nature of much intellectual work in the early modern period in Europe, quite possibly continuing medieval practices that are not yet well studied.^{xxxv} Scholars and students, as well as members of the ruling elite, hired scribes to make fresh copies but also amanuenses or readers who would read and take notes in one's stead.^{xxxvi} Groups formed by students, literary societies or a governing elite could devise collective reading and/or writing projects which pooled intellectual tasks and resources.^{xxxvii} Such collaborative ventures often involved hierarchies of tasks and persons.^{xxxviii} A particularly elaborate example is the team of people

engaged in a massive compilation of ecclesiastical history launched in mid-16th century by the Protestant Flaccius Illyricus. Flaccius explains how he spent the funding obtained from princely patrons on seven students who made excerpts from the authors assigned to them, two masters of arts "of outstanding maturity" who assessed and arranged these materials into a coherent historical narrative, five inspectors responsible for selecting and assigning the works to be studied and generally managing the project; and one copyist to make fair copies.^{xxxix} Printed reference books also offered ready-made the kinds of notes that one might have wanted to take for oneself or to hire another to compile.^{xl}

Given the vast bulk of many of the encyclopedic works composed in pre-modern Islam, one can surmise that collaborative work was involved there too. While printing accelerated the process manyfold, a manuscript culture also generates in fairly short order more works than any single person can master. Did Islamic scholars articulate concerns about overabundance? How did they cope with the ever-increasing accumulation of works to cite and master? Were there periodic moments of contraction during which some works from the past were set aside and forgotten? By the end of the 17th century Western Europe had in most contexts shifted away from the massive accumulations of classical quotations, exempla and information and toward a new set of topics and authorities. The Latin reference books I have described so far were generally no longer or barely reprinted after 1710.^{xli} Instead, starting in last decades of the seventeenth century, vernacular dictionaries canonized a new set of authors who became "classics" and offered encyclopedic information about contemporary culture and recent scientific developments.^{xlii} Commentaries on Aristotle's physics were still being dictated to students at a university near Barcelona as late as the end of the 18th century, and the *Calepino* was reprinted 5 more times in the 18th century for the Seminary of Padua, but the new reference books now

focused on the mechanical philosophy and a new set of authorities from Descartes to Newton and their followers.^{xliii}

The shift from ancient to modern authorities in European culture generated more rapidly than ever an overabundance of works in the new vein and of shortcuts to them. In addition to old genres filled with new material, new genres also appeared, notably the learned journal and the book reviews that often filled their pages.^{xliv} Islam by contrast experienced a much greater continuity of traditional culture throughout this period, perpetuating much longer, indeed down to the present day in some cases, the active life of encyclopedic works composed in the pre-modern period. This much more continuous longue durée of genres and of the manuscript working methods which created them offers privileged opportunities for insight into similar practices which were dominant in Europe before the transition to modernity. The "encyclopedia," however loosely we define it, is a particularly fruitful lens through which to examine cultural change and continuity in both European and Islamic contexts. It has proved remarkably resilient and widespread precisely because it is so adaptable and multivalent.

NOTES

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For a list of early appearances of the term, in addition to a general discussion of the term, see Robert L. Fowler, "Encyclopaedias: definitions and theoretical problems," in Pre-modern encyclopaedic texts. proceedings of the second COMERS congress, Groningen, 1-4 July 1996, ed. Peter Binkley (Leiden: Brill, 1997). The introduction of the word in French is attributed to Rabelais in 1532 (see for example Jean Céard, "Le commentaire ou l'encyclopédisme non méthodique de la Renaissance," in L'entreprise encyclopédique, Littérales 21 (1997), pp. 79-95, p. 79); the Oxford English Dictionary dates the first English use to 1531 (Sir Thomas Elyot, The Governour, I, xiii).

ii For a valuable explication of the circle metaphor see Jean Céard, "Encyclopédie et Encyclopédisme à la Renaissance" in Encyclopédisme: actes du colloque de Caen (1991), ed. Annie Becq (Paris: Aux Amateurs de Livres, 1991), pp. 57-67.

iii Encyclopaedia Britannica, 15th edition (Chicago, 1994; first published 1974), Propaedia, pp. 5-8 (section by Mortimer J. Adler).

iv See L. M. de Rijk, "**egkuklios paideia**. A study of its original meaning." Vivarium 3 (1965): 24-93; H. Fuchs, "Enkyklios Paideia," Reallexikon für Antike und Christentum 5 (1962), pp. 366-98.

v For a useful history of the term see Ulrich Dierse, Enzyklopädie: zur Geschichte eines philosophischen und Wissenschaftstheoretischen Begriffs (Bonn: Bouvier Verlag Herbert Grundmann, 1977).

vi Early examples include Joachim Ringelberg, Lucubrationes vel potius absolutissima **kyklopaideia** (Basel: Westhemerus, 1538) and Paul Scalich de Lika, Encyclopaediae, seu Orbis disciplinarum, tam sacrarum quam prophanarum, Epistemon (Basel: Ioannes Oporinus, 1559); the colophon to Gregor Reisch, Margarita philosophica refers to the book as a "cyclopaedia" as early as 1508, though the term only appears as a subtitle in 1583. Alfredo Serrai, Storia della Bibliografia I: Bibliografia e Cabala: le enciclopedie rinascimentali, ed. Maria Cochetti (Roma: Bulzoni, 1988), p. 146.

vii For a fine study of Chambers and his context, see Richard Yeo, Encyclopedic Visions: Scientific Dictionaries and Enlightenment Culture (Cambridge: Cambridge University Press, 2001). The literature on the Encyclopédie is so vast as to defie summary; for a recent survey, see Frank Kafker, "Some observations on five interpretations of the Encyclopédie," Diderot Studies XXIII, ed. Otis Fellow and Diana Guiragossian Carr (Geneva: Droz, 1988), pp. 85-100.

viii Robert Kerr, Memoirs of the Life, Writings and Correspondence of William Smellie, 2 vols (Edinburgh: John Anderson, 1811), I, pp. 362-63 (emphases in the original). On the fortunes of the two works, see Frank Kafker, "The Tortoise and the Hare: A Comparison os the longevity of the Encyclopaedia Britannica with the Encyclopédie," forthcoming in Scotland and France in the Enlightenment.

ix For an interesting survey of the association of the term "encyclopedia" with Vincent of Beauvais, see Jürgen Henningsen, "'Enzyklopädie.' Zur Sprach- und Bedeutungsgeschichte eines pädagogischen Begriffs," in Archiv für Begriffsgeschichte 10 (1966), 271-362, esp. pp. 321-24. He points out that when the 1624 printed edition of the Speculum maius uses the term "encyclopedia" it is not to designate the whole four-volume work, but only the volume devoted to the arts and sciences.

x See, most recently, Bernard Ribémont, "On the definition of an encycloepdic genre in the

Middle Ages," in Pre-modern encyclopedic texts, ed. Binkley, pp. 47-61 and De natura rerum: études sur les encyclopédies médiévales (Orléans: Paradigme, 1995). A number of classic studies of individual encyclopedias appeared in "Encyclopédies et Civilisations," Cahiers d'histoire mondiale 3 (1966): 431-851 and Maurice de Gandillac et al., La pensée encyclopédique au Moyen Age (Neuchâtel: éditions de la Baconnière, 1966).

xi Vincent of Beauvais, Bibliotheca mundi (Douai: Baltazar Beller, 1624), I: Speculum naturale, Prologue, 1.

xii For an entry into the literature on Vincent of Beauvais see Vincent de Beauvais: intentions et réceptions d'une oeuvre encyclopédique au Moyen Age, Actes du XIVe colloque de l'Institut d'Etudes médiévales (1988), ed. Monique Paulmier-Foucart, Serge Lusignan et Alain Nadeau (Saint-Laurent: Maison Bellarmin, 1990).

xiii "Quod precatus sum a Deo immortalis cum professio philosophiae mihi demandaretur, ut pro ineffabili sua gratia mihi concederet ea docere, quae ad liberalium ingeniorum culturam et ad philosophiae decus pertinerent: id toto illo duodecim annorum decursu ..., id, inquam, toto professionis meae tempore ante oculos habui. Sic enim semper institui rationes meas, ut aliorum commodis inservire, ac unius Dei gloriam amplificare possem. Hinc mihi natae sunt variae lucubrationes: e quibus multae diversis temporibus lucem aspexerunt. Tandem subiit animum meum haec cogitatio, magnum fore operae pretium si latifundium regni philosophici uno syntagmate delinearem: quod ante me fecisse videbam viros omni exceptione majores Fortium videl. Ringelbergium in Encyclopaedia, Hieronymum Cardanum in libris de Subtilitate, itemque de varietate rerum, Theodorum Zwingerum in Theatro vitae humanae, Petrum Ramum in Professione regia, authorem margaritae philosophicae et catenae scientiarum, Thomam Freigium in Paedagogo, Antonium Possevinum in Bibliotheca selecta, Gregorium Tholozanum in Syntaxi artis mirabilis, Cornelium Gemmam in Cyclognomicis, Jacobum Lorhardum in Heptade philosophica, Wowerium in Polymathia, Matthiam Martinium in Encyclopaedia, Bartholomaeum Keckermannum et Clementem Timplerum in variis Systematis, Robertum Flud in Macrocosmo et Microcosmo, Johannem Colle de Idea et theatro imitatricium et imitabilium ad omnes intellectus, facultates, scientias et artes. Horum authorum heroico labore, ac utilitate rei longe maxima adductus, sumsi animum, cumque animo calamum et duce Scriptura sacra, comite ratione recta et experientia certa, teste denique conscientia, elucubravi hoc, quod vides, opus." Alsted, Encyclopedia septem tomis distincta (Herborn, 1630), vol. I, sigs. iiiiv-iiiir.

xiv On the contrast between encyclopedic ordering and the miscellany see Neil Kenny, The Palace of Secrets: Béroalde de Verville and Renaissance Conceptions of Knowledge (Oxford: Clarendon Press, 1991).

xv Dierse attributes this step to J. von Hammer-Purgstall, Über die Enzyklopädie der Araber, Perser und Turken (Vienna, 1857) and his article entitled "Enzyklopädie" in J.S. Ersch and J. G. Gruber, Allgemeine Enzyklopädie der Wissenschaften und Künste, section I, part 34 (Leipzig, 1840), pp. 206-8; see Dierse, p. 4. n. 14.

xvi See for example Jean-Louis Taffarelli, Les systèmes de classification des ouvrages encyclopédiques (Villeurbanne: Ecole normale supérieure des bibliothèques, 1980); and The Structure of Knowledge: Classifications of science and learning since the Renaissance, ed. Tore Frängsmyr (Berkeley: Office for the History of Science and Technology, University of California, 2001); also Robert McRae, The Problem of the Unity of the Sciences: Bacon to Kant (Toronto: University of Toronto Press, 1961).

xvii Conrad Gesner, Historiae Animalium lib. I de Quadrupedibus viviparis (Zurich: Froschauer, 1551), sig. beta 1v.

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- xviii Gabriel Naudé, Instructions concerning erecting of a library, tr. John Evelyn (1661; repr. Cambridge, MA: Houghton, Mifflin and Co., 1903), 60-61.
- xix Meric Casaubon, Generall Leaning, ed. Richard Serjeantson (Cambridge UK: Renaissance Texts from Manuscript, 1999), p. 21.
- xx Huetiana ou pensées diverses de M. Huet (Paris: Jacques Estienne, 1722), #74, p. 171.
- xxi Ambrogio Calepino's Latin Dictionarium began in 1503 as a Latin-Latin encyclopedic dictionary, then added synonyms in Greek and numerous vernaculars for a total of 6 then 8 and finally 11 languages. See Albert Labarre, Bibliographie du Dictionarium d'Ambrogio Calepino (1520-1779) (Baden-Baden: Koerner, 1975).
- xxii "Ut instar communis commentarii in plerosque scriptores, hic liber sit." Calepino, Dictionarium (Basel: Henricpetri, 1616), "De triplici utilitate hujus Operis."
- xxiii Richard and Mary Rouse, "Bibliography before print: the medieval de viris illustribus," in The role of the books in mediaeval culture proceedings of the oxford international symposium, ed. Peter Ganz. vol. I (Turnhout, belgium: Brepols, 1986).see rouse
- xxiv See, for examples of the first two types, see John Bale, Illustrium maioris Britanniae scriptorum summarium Ipswich, 1548, reissued Wesel, 1549. second enlarged edition Basel, 1557 and 1559 (two parts usually bound in one volume; seeReginald Lane Poole ed., Index Britanniae Scriptorum (Oxford: Clarendon, 1920), p. vii; and Paul Freher, Theatrum virorum eruditione clarorum (Nürnberg: Johann Hofmann, 1688). Dictionaries of the proper names encountered in classical literature began earlier, with Hermannus Torrentinus, Elucidarius carminum ... seu vocabularius poeticus first published (Deventer, 1498); in the same vein Conrad Gesner's bulkier Onomasticon first published (Basel, 1546) was often combined with Calepino's Dictionarium.
- xxv See Mary Rouse and Richard Rouse, "Statim invenire: Schools, Preachers and New Attitudes to the Printed Page," in Renaissance and Renewal, ed. R. L. Benson and G. Constable (Cambridge, Mass: Harvard University Press, 1982), 201-25, and Authentic Witnesses: approaches to medieval texts and manuscripts (Notre Dame: University of Notre Dame Press, 1991), chs. 6-7; Ann Moss, Printed Commonplace-Books and the Structuring of Renaissance Thought (Oxford: Clarendon Press, 1996).
- xxvi See Mary Rouse and Richard Rouse, Authentic Witnesses: Approaches to Medieval Texts and Manuscripts (Notre Dame, IN: University of Notre Dame Press, 1991), esp. chs. 6-7; on indexing especially see Mary Rouse and Richard Rouse, "Concordances et index," in Mise en page et mise en texte du livre manuscrit, ed. Henri-Jean Martin and Jean Vezin (Paris: Editions du Cercle de la Libraire, Promodis, 1990), 219-28. On early modern indexing, see Ann Blair, "Annotating and indexing natural philosophy," in Books and the Sciences in History, ed. Marina Frasca-Spada and Nick Jardine (Cambridge: Cambridge University Press, 2000), pp. 69-89.
- xxvii Examples include Angelo Poliziano's Miscellanea (1489), Niccolo Perotti's Cornucopiae (1489), Erasmus's Adages (first published in 1500 then much enlarged in 1508), Caelius Rhodiginus, Lectiones antiquae (1516), Alexander ab Alexandro, Dies geniales (1522). On this genre see Jean-Marc Mandosio, "La miscellanée: histoire d'un genre," in Ouvrages miscellanées et théories de la connaissance à la Renaissance, ed. Dominique de Courcelles (Paris: Ecole des chartes, 2003); Raphaële Mouren, "La varietas des philologues au XVIe siècle" in La varietas à la Renaissance, ed. Dominique de Courcelles (Paris: Ecole des Chartes, 2001), pp. 5-31; Jean-Marc Chatelain, "Encyclopédisme et forme rhapsodique au XVIe siècle," in L'entreprise encyclopédique, ed. Jean Bouffartigue and Françoise Mélonio, Littérales 21 (Paris: Centre des Sciences de la Littérature, Université Paris X-Nanterre, 1997), pp. 97-111; and Ann Blair, "The

Collective Commentary as Reference Genre," forthcoming in a volume ed. Ralph Haefner and Markus Voelkel.

xxviii Richard and Mary Rouse, "Bibliography before print: the medieval *De viris illustribus*," in *The role of the books in mediaeval culture*, ed. Peter Ganz. vol. I (Turnhout, Belgium: Brepols, 1986). More generally, Luigi Balsamo, *Bibliography. History of a tradition*, tr. William A. Pettas (Berkeley: Bernard M Rosenthal, Inc, 1990).

xxix For the most specialized of these, see Archer Taylor, *A History of Bibliographies of Bibliographies* (New Brunswick, NJ: Scarecrow Press, 1955).

xxx Malcolm B. Parkes, "The Influence of the concepts of *ordinatio* and *compilatio* on the development of the book," in *Medieval Learning and Literature: essays presented to Richard William Hunt*, ed. J.J.G. Aexander and M.T. Gibson (Oxford: Clarendon Press, 1976).

xxxi Franz Rosenthal, *The Technique and Approach of Muslim Scholarship* (Rome: Pontificium Institutum Biblicum, 1947), pp. 6-7ff. On note-taking from sermons and lectures (*reportationes*), see Nicole Bériou, "La réportation des sermons parisiens à la fin du XIIIe siècle," *Medioevo e rinascimento* 3 (1989), 87-123; Beryl Smalley, *The Study of the Bible in the Middle Ages* (Oxford: Basil Blackwell, 1952), 201ff. For some explicit comparison with Islamic note-taking see George Makdisi, *The Rise of Colleges: Institutions of Learning in the Islam and the West* (Edinburgh: Edinburgh University Press, 1981), pp. 244ff.

xxxii See Elizabeth Eisenstein, *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early Modern Europe* (Cambridge: Cambridge University Press, 1980). For two different kinds of critiques see Anthony Grafton, "The Importance of Being Printed," *Journal of Interdisciplinary History* 11 (1980), pp. 265-86 and Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* (Chicago: University of Chicago Press, 1998). See the forum featuring these authors in *American Historical Review* 107 (2002), pp. 84-128.

xxxiii For more on this topic see Ann Blair, "Reading Strategies for Coping with Information Overload, ca. 1550-1700," *Journal of the History of Ideas* 64 (2003), pp. 11-28.

xxxiv "S'il achette par exemple, un ouvrage en douze volumes, où il n'y ait que six pages qui méritent d'être lûes, il sépare ces six pages du reste et jette l'ouvrage au feu." Article "Bibliomanie," in Diderot ed., *Encyclopédie*, tome II (Paris: Briasson et al., 1751), p. 228 as discussed in Daniel Désormeaux, *La figure du bibliomane: histoire du livre et strategie littéraire au XIXe siècle* (St Genouph: Nizet, 2001), ch. 3.

xxxv See for example Kathryn Kerby-Fulton and Maidie Hilmo, *The Medieval Professional Reader at Work: evidence from manuscripts of Chaucer, Langland, Kempe and Gower* (Victoria, Canada: English Literature Studies, 2001). A seminal article inspiring this recent research is Steven Shapin, "The Invisible Technician," *American Scientist* 77 (1989), 554-563.

xxxvi For an example of a professional reader active in early seventeenth-century England, see Lisa Jardine and Anthony Grafton, "Studied for Action: How Gabriel Harvey Read his Livy," *Past and Present* 129 (1990), 30-78. Another form of evidence includes advice on hiring helpers of different kinds, as in Vernon F. Snow, "Francis Bacon's Advice to Fulke Greville on Research Techniques," *Huntington Library Quarterly* 23 (1960), 369-79, 370; or Daniel Georg Morhof, *Polyhistor*, 3rd ed. (Lübeck: Petrus Boeckmannus, 1732), I, 1, 21 #12, p. 239. Finally, criticisms of such hiring also constitutes evidence that it was a well-known practice, as in Jeremias Drexel SJ, *Aurifodina artium et scientiarum omnium. Excerptendi sollertia, omnibus litterarum amantibus monstrata* (Antwerp: Vidua Iaonnis Cnobbari, 1638), 58.

xxxvii The Hamburg professor Vincent Placcius boasted for example of the utility of a closet he

advocated for storing notes on slips of paper sorted under headings because it facilitated the collective accumulation and use of reading notes. Vincent Placcius, De arte excerptendi, vom Gelährten Buchhalten liber singularis quo genera et praecepta excerptendi (Stockholm and Hamburg: Gottfried Liebezeit, 1689).

xxxviii Erasmus for example distinguished between young men whom he hired as scribes and his more mature helpers or amanuenses who exercised judgment in reading and note-taking; see Franz Bierlaire, La familia d'Erasmus: contribution à l'histoire de l'humanisme (Paris: Vrin, 1968), e.g. pp. 28-29.

xxxix Anthony Grafton, "Where was Salomon's House? Ecclesiastical History and the Intellectual Origins of Bacon's New Atlantis," in Die europäische Gelehrtenrepublik im Zeitalter des Konfessionalismus, ed. Herbert Jaumann (Wiesbaden: Harrassowitz Verlag, 2001), 21-38, pp. 29-30.

xl For more discussion on this general theme, see Ann Blair, "Note-taking as an art of transmission," forthcoming in Critical Inquiry.

xli One widely reprinted florilegium, Domenico Nanni Mirabelli's Polyanthea, was in print from 1503 to 1686; Caelius Rhodiginus' Lectiones antiquae were printed down to 1666; the sequel to Zwinger's Theatrum Humanae Vitae, the Magnum theatrum was last reprinted in 1707.

xlii Notable examples include the Dictionnaire [sic] of Antoine Furetière (1690) or the Lexicon Technicum of John Harris (1710)

xliii For a general overview of the transitions in scientific fields which occurred during this period, see the Cambridge History of Early Modern Science, ed. Lorraine Daston and Katharine Park.

xliv One of the earliest of these was Pierre Bayle's Nouvelles de la République des Lettres (1684); for a synthetic introduction to these developments, see Hans Bots and Françoise Waquet, La République des Lettres (Paris: Belin, 1997), esp. ch. 5.